12. Many cut the final product to 60–70 proof and add beading oil to fake quality and high proof.

13. It is rumored that some people set batteries down in the mash boxes to make it work more quickly; but another we talked to hinted that that might just have been a rumor put out by federal agents to hurt the sale of whiskey. We could get nothing concrete on this one way or another.

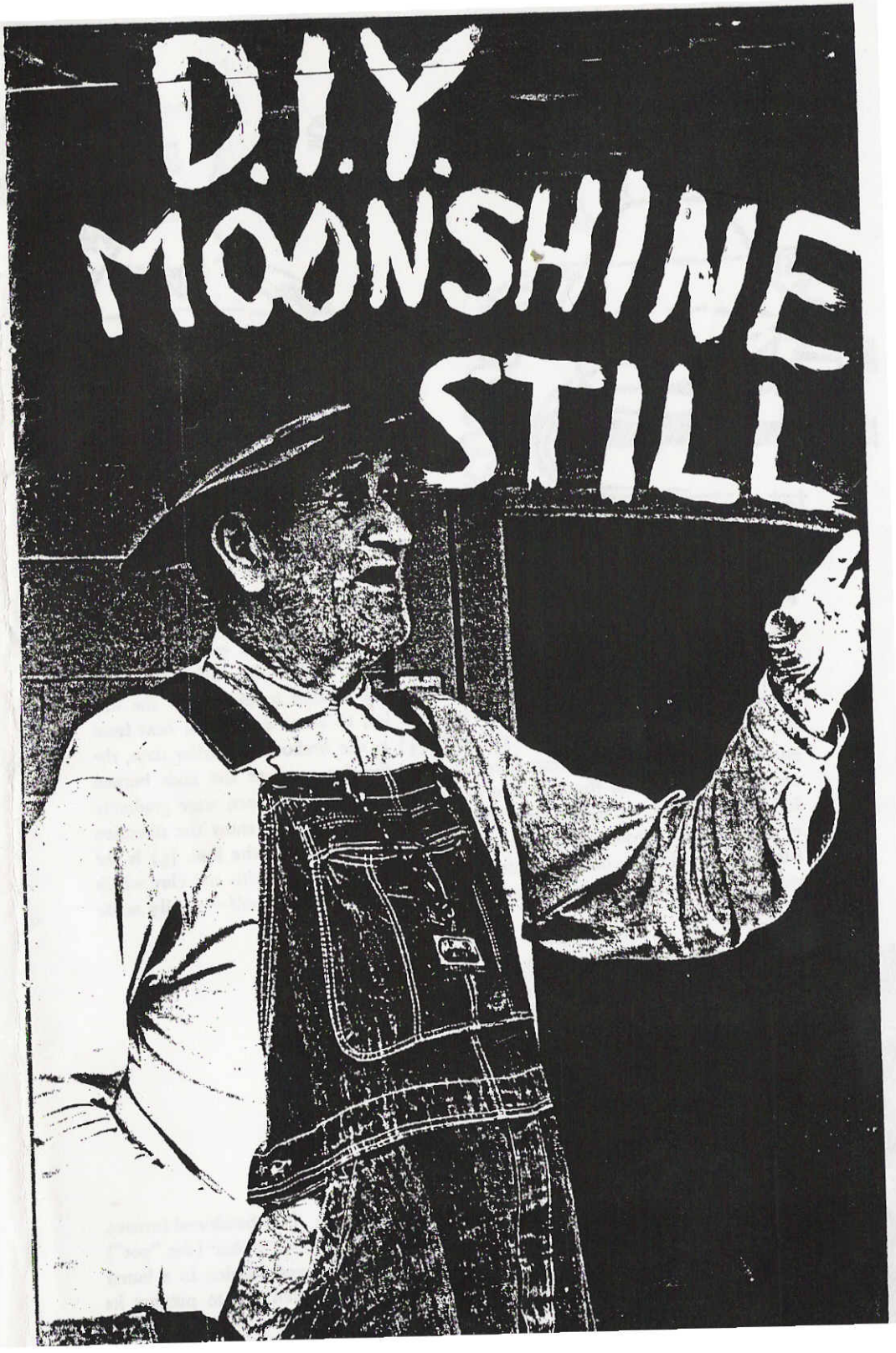
14. One of our contacts knows a man who uses a groundhog still which he fills two-thirds full of water which he then heats. Then he adds fifty pounds of wheat bran, four 100-pound sacks of sugar, and two cans of yeast. That's it. No souring—nothing. Apparently it makes "pretty" whiskey which holds a good bead, but has a funny "whang" flavor.

The biggest problem, of course, is as we have hinted several times before—the desire for quantity rather than quality. One retired moonshiner said, "When I was working for th' forest service and saw th' filth and th' nature of most of th' stills in th' woods today, th' prouder I was that I quit drinkin' th' stuff. I don't see how more people don't get killed."

Another claimed that he had often had people who make whiskey themselves come to him to buy the liquor *they* were going to drink. They were afraid to drink their own.

It apparently is not that difficult to get away with making bad whiskey, because most of it is sold through bootleggers who themselves don't know where it came from. In addition, much of it is shipped to the poorer districts of some of the bigger cities, and the people who buy it there have no means of finding out who made it. Thus the operator of the still is reasonably safe, rarely having to pay for his sloppiness.

He earns little respect among his neighbors, however. As one said, "A man ought to be put in a chain gang with a ball tied to him if he uses potash to make whiskey. 'Bout all you can call that is low-down meanness. He ain't makin' it t'drink himself, and he ain't makin' it fit for anyone else to drink neither."



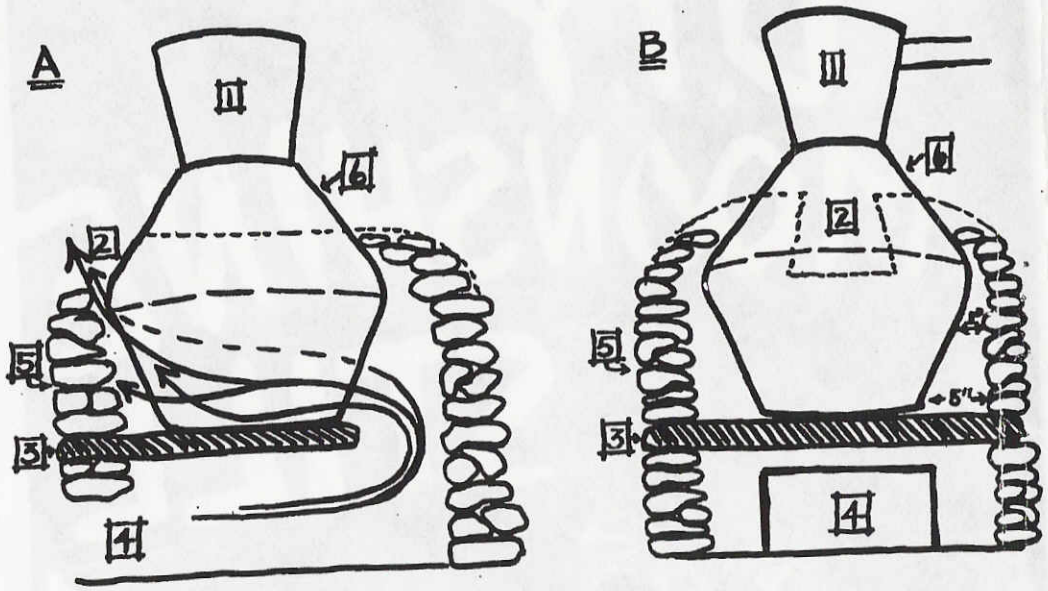


PLATE 264 In both of the above diagrams: (1) is the cap, (2) the flue at the front of the still through which hot air from the firebox escapes, (3) the bedrock platform built into the furnace wall on which the still rests. As is shown in *Diagram A*, the platform is not wide enough to extend all the way to the back of the furnace. A large space is left to allow passage of heat from the firebox around the sides of the still. (4) is the firebox. In earlier days, the ends of hardwood logs were used to start the fire, and as the ends burned away, the portions of the logs that extended outside the furnace were gradually fed in to provide constant heat. The arrows in *Diagram A* show the direction of the heat as it goes around both sides of the still and out the flue. (5) is the furnace wall. It was usually built of natural stone chinked with red clay which would harden through successive burnings. (6) is the still itself—usually made of copper.

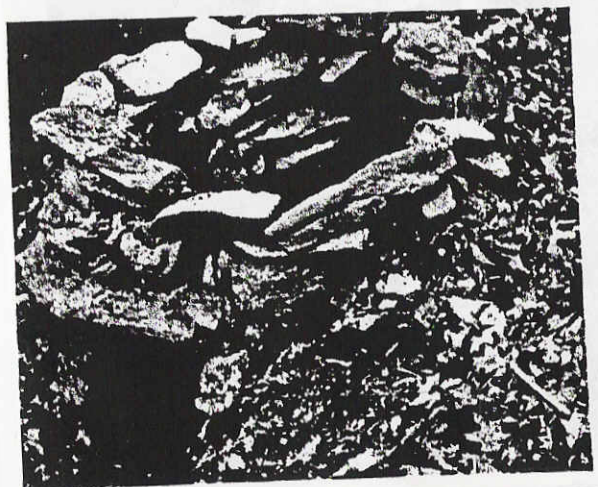


PLATE 265 An abandoned furnace. Often the copper cooker (the "pot") was removed and hidden in a laurel thicket after each run to prevent its being stolen before the operator was ready to make another run.

4. Use the best water available (many prefer streams running west off the north side of a hill). The water can make a difference of several gallons in the final yield.

5. Everything must be kept spotless. The copper inside the still should shine like gold. Barrels (or boxes) too must be kept clean. Smoke them out after each use with several handfuls of corn meal bran set afire.

6. Add three or four drops of rye flavoring to each gallon of whiskey to give it a yellow tint and a distinct rye flavor.

7. The place to make the whiskey is in the boxes. If it's not right there, no amount of boiling and cooking can save it.

HOW GOOD WHISKEY IS BEING RUINED

1. Stills are often made of sheet iron or valley tin instead of copper. These metals often burn the beer and give it a strange taste.

2. The beer is often run too early before it has a chance to sour properly.

3. The whiskey is sometimes condensed in a straight worm which does not let it slow down enough to cool off properly. This gives it a harsh, hot taste.

4. Often whiskey is scorched because it is not watched properly, not stirred while heating, or because the fire under the still is too hot.

5. If whiskey is not strained properly, it will contain elements that can make one violently ill.

6. Radiators used as condensers are extremely dangerous. They can never be cleaned out completely, and the end result is sometimes whiskey that can cause lead poisoning.

7. Potash is sometimes used to "fake" a high bead. This is the same material soap is made out of, and it can be poisonous.

8. Sometimes potash and ground up Irish potatoes are added to the malt to make it work off quicker and yield more.

9. Often vessels are left dirty, and produce "popskull" liquor.

10. Instead of pure corn malt, some use yeast.

11. Instead of pure corn meal, some use "wheat shorts" so it won't stick to the still.

the alcohol, dashing it on the hot still cap, and holding a match to the resulting steam. If it burns, keep it running.

14. From the second running, you should have two or three gallons of good whiskey and seven or eight gallons of backings.

Drain the faints out of the thumper and "let them hit the ground and run away." They are no good for anything. Add the new backings to the thumper.

Drain the still, fill it again with fresh beer, and run it the third time. This time, since there are fewer backings, you'll get less liquor, but more backings for the fourth run. On the fourth run, you'll get more liquor because you have more backings, but you'll also get fewer backings for the fifth run; and so on. The yield will vary up and down with each stillful.

Keep running until all the beer has been used up.

Without a thumper, all the backings would have been saved, and all run through the still together on the last run.

15. After about seven runs, the net result will be seven to ten gallons of pure corn (unsugared) whiskey, for an average of about a gallon to a gallon and a half per bushel of corn. (With sugar, the result should be about six gallons to the bushel.)

These are called the "high shots." They are about 200 proof and must be cut to be drinkable. To cut, either add about one-third backings from the last run, or water. Many prefer water. Add the liquid you are cutting the alcohol with until it holds a good steady bead in the proof vial. If the bead will hold steady after three good thumps in the palm of your hand, then it will stand any amount of jolting and bumping in shipment. From nine gallons of high shots, you should get about twelve gallons of fine whiskey.

Other hints:

1. If a wood fuel is being used, ash is the best of all. It gives a good, steady heat, and little smoke. Also good are hickory and mountain oak.

2. Always use copper. Beer doesn't stick to it so badly, and there is less chance of any kind of metal poisoning.

3. Never let the whiskey run too fast. Always keep it cold while it's running. If it is kept as cold as the water it is being condensed by, it will remain smooth and mild and not harsh to the taste. About sixty degrees is normal.

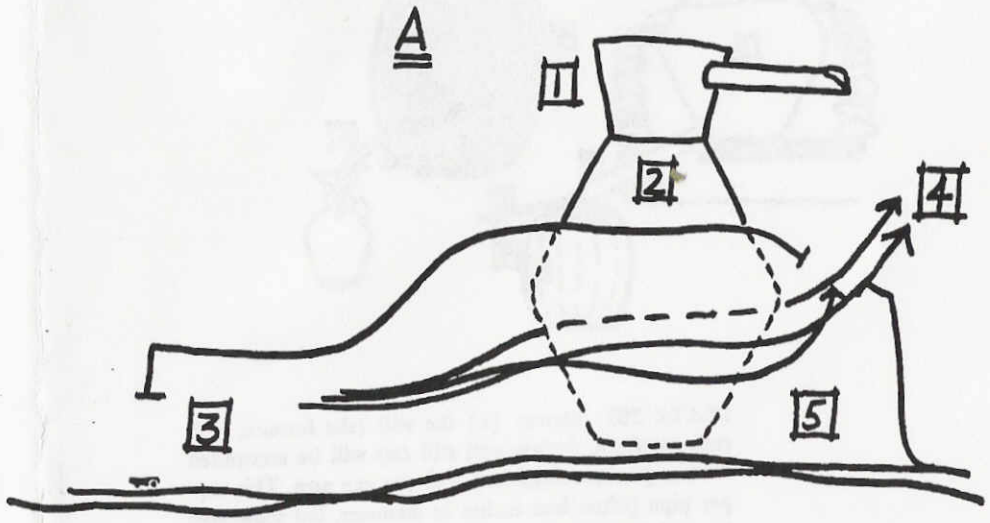


PLATE 266 *Diagram A* illustrates an interesting variation on furnace design which was once fairly popular. Called the "groundhog" or "hog" still, it was unique in that the still sat directly on the ground, and the furnace of mud, clay, and rocks was built up around it with the flue at the back. (1) is the cap, (2) the still, (3) the firebox. The heat was drawn to the flue (4) and circulated around the still in the space left between the furnace and the copper wall of the still. The arrows show the direction of heat. (5) is the back of the furnace—sometimes this was against a bank, and sometimes the furnace hole was dug directly into a bank. The surrounding earth, in the case of the latter design, was extremely effective insulation. When cleverly built, this furnace could also be much easier to hide than the stone furnace which sat right out in the open in most cases.

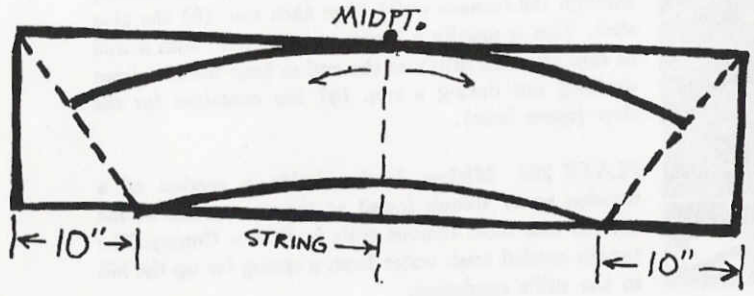


PLATE 267

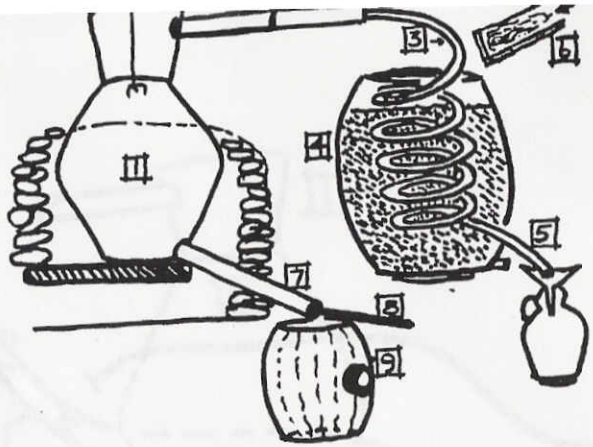


PLATE 268 Above: (1) the still (the furnace, bedrock platform, firebox and still cap will be recognized from a previous diagram). (2) the cap arm. This copper pipe (often four inches in diameter, but sometimes tapered from six inches at the cap end to four or less at the other) conveys the steam from the still to the copper worm. (3) the worm. This pipe is about three-quarters of an inch to an inch in diameter, and is coiled tightly to get maximum length of pipe into minimum space. The steam condenses into liquid in the worm. Sometimes the worm is simply fixed in midair, and the steam cooled by a water jacket which surrounds the pipe and into which fresh, cold water is continually fed, but more often the worm is fixed inside a water tank of some sort—in this case a fifty gallon barrel (4) —through which cold water is constantly circulated. (5) the end of the worm. The alcohol which flows out here is usually strained through hickory coals to remove the fusel oils (barda grease)—thus the funnel above the jug in the diagram at the end of the worm. (6) the pipe, or trough from the cold water source—usually a mountain stream. (7) the slop arm. The spent beer is drained out this copper pipe (which passes directly through the furnace wall) after each run. (8) the plug stick. This is usually a hickory or oak limb with a wad of rags attached firmly to the end to keep the beer from draining out during a run. (9) the container for the slop (spent beer).

PLATE 269 Mickey Justice holds a section of a wooden water trough found at the site of one of the earliest and most famous stills in Rabun County. The trough carried fresh water from a spring far up the hill to the still's condenser.

and sides of the still. Keep this up until it has come to a rolling boil and can thus keep itself stirred. Then paste on the cap and cap arm using the rye dough.

11. Chunk the fire easy, starting slowly, and gradually building it up in intensity. About fifteen minutes after the beer starts boiling in the still, the steam will hit the cold beer in the thump barrel and start it bubbling and thumping. On cold days, this thumping can be heard for several hundred yards through the woods.

When the thumping quiets, the beer is boiling smoothly in the still and doing fine.

Place a container under the end of the condenser. A funnel should be inserted in the container which is lined with a clean, fine white cloth on the bottom, a yarn cloth on top of that, and a double handful of washed hickory coals on top of that. The coals remove the "bardy grease" (it shows up as an oil slick on top of the whiskey if not drained off) which can make one very ill.

12. When the thumping stops, the whiskey starts. A gush or two of steam will precede it at the condenser end. This will be followed by a strong surge of liquid which quickly subsides to a trickle. On the second surge, "she's coming for good," as one man said.

Begin catching the alcohol on the second surge. (If it is being made with sugar, this first run will not hold a bead. Save it anyway.) Keep running the still as long as there is any taste of alcohol in the liquid being produced.

Then drain the thump barrel. Add the results of the first run—about ten gallons of backings. Then drain the still through the slop arm and fill it again with beer as before.

13. On the second run through, you'll have good whiskey because the steam has gone through the backings in the thumper. It will be double strength. Keep checking it with the proof vial, catching it as it comes out of the condenser, thumping it in the palm of your hand, and watching the bubbles. When it's dead, pull the container away. You should have two to three gallons of whiskey, the bead on which will be half under the liquid and half over it. (If you're running sugar whiskey, the results from the first run on will be whiskey, and the bead will be two-thirds under the surface and one-third over it.)

Catch the remainder of the second run in another container. These are the new backings for the third run.

Another way to tell whether or not the whiskey is still strong enough to catch in the container of good stuff is by taking some of

7. The next day, return to the site and stir up the mixture in each of the barrels to speed up their working. Home again.

8. About two days later, check again. At the same time, gather the wood you will need, bring in kegs, fruit jars, and whatever else you may need.

(On this fourth day, if you're using sugar, add a half gallon of malt to each barrel and thirty-five to forty pounds of sugar to each barrel. Stir in and let the mixture work for five more days.)

9. If you are not using sugar, then the whole mixture should be ready to run on the fifth day of its working. (With sugar, it takes about nine or ten days.) You can tell when it's ready to run by studying the cap that has formed over the beer. Sometimes this cap will be two inches thick. Sometimes it will only be a half inch thick, and sometimes it will just be suds and blubber, called a "blossom cap." All of these are fine.

When the cap is nearly gone, or only a few remnants are left scattered over the top, the mixture is ready to run. The alcohol has eaten the cap off the beer. Don't wait to run it at this point or the mixture will turn to vinegar, and the vinegar will eat the alcohol thus ruining your beer. It is better to run the whole thing a day early than a day late—you'll still get mild, good whiskey. Appearance of "dog heads" also indicates that it's ready to run.

[Note—one variation on the above process was also popular. Two bushels of mash were put in each fifty-gallon barrel, and cold water added. No cooking was used. This mixture would sour in three or four days and produce a crust. This would be broken up, stirred in, and the mixture left for another two or three days until it had soured again. *Then* a gallon and a half of malt was added to each barrel, and the mixture allowed to work another week. At this point, it was ready to run in the same manner as the other we have been describing.]

10. Now all connections on the still are sealed up with a stiff rye paste save for the cap and cap arm. The plug stick is inserted through the top of the still, handle first, and the handle pulled out through the slop arm until the ball of rags at the other end jams the opening.

Fill the still almost to the top (leave about three gallons off for expansion due to heat) with the beer. Put ten gallons of beer in the thump barrel.

Build up the fire underneath, and as the beer heats, stir it constantly with the swab stick to keep it from sticking to the bottom

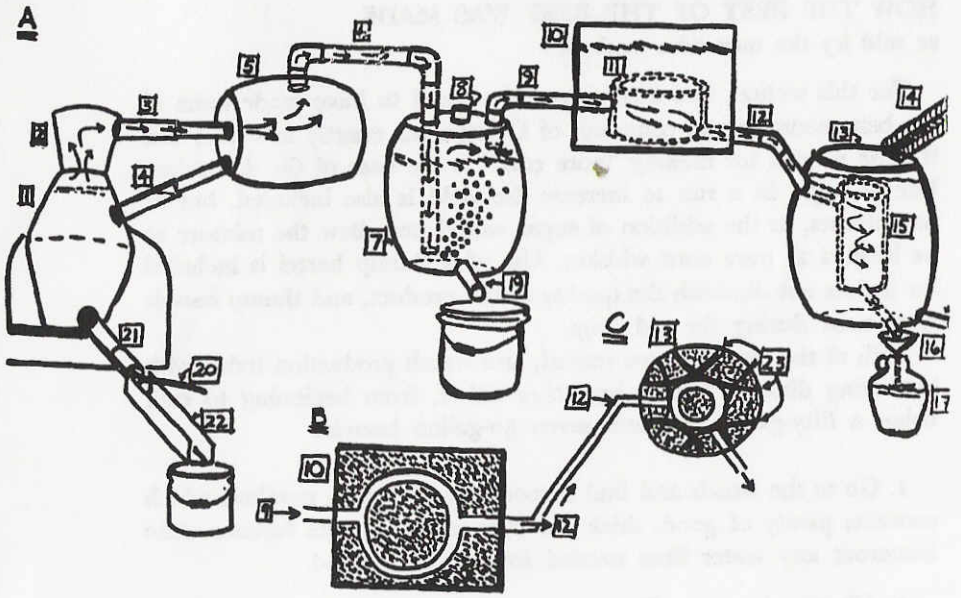


PLATE 270 Refined to the ultimate, this version—*Diagram A*—of the Blockade Still works as follows: The steam (arrows) from the beer boiling in the still (1) moves into the cap (2), through the cap arm (3), and into the dry or "relay" barrel (5). Beer which bubbles over or "pukes" into the relay barrel is returned to the still via the relay arm (4). From this barrel (usually a fifty-gallon one which is mounted so that it slants slightly back toward the still), the steam moves into the long thump rod (6) which carries it into the bottom of the fifty-gallon thump barrel (7) and releases it to bubble up through the fresh beer, which was placed there earlier via inlet (8)—now closed to keep the steam enclosed in the system. The beer in this barrel is drained after each run and replaced with fresh beer before the next. Picked up again at the top by the short thump rod (9), the steam moves into the heater box or "pre-heater" (10) which is also filled with fresh beer. Here the steam is not set loose, however, but is forced through a double-walled ring (11) that stands about nine inches high, is thirty-four to forty inches in diameter, and mounted so that it stands about a half inch off the floor of the heater box. The top and bottom of the ring are sealed so that the steam cannot escape. Heat from the steam is transferred to this cool, fresh beer thus heating it to make it ready for the next run when it will be transferred into the drained still via a wooden trough connecting the two (not shown here). The steam then moves via another connecting rod (12) into the flake stand (13) and into the condenser (15)—in this case another double-walled ring, higher and narrower than the previous one. The steam is condensed in this ring by the cold water flowing into the flake stand from (14) and exiting by outlet (18). As the steam is condensed into alcohol, it flows through a strainer and funnel (16) into the container (17).

HOW THE BEST OF THE BEST WAS MADE

as told by the men who made it

For this section, two men who are reputed to have made some of the best moonshine to come out of Georgia tell exactly how they did it. The process for making "pure corn" is the base of the discussion. Use of sugar in a run to increase the yield is also included, but in parentheses, as the addition of sugar would not allow the mixture to be labeled as pure corn whiskey. Use of a thump barrel is included for it does not diminish the quality of the product, and thump barrels were used during the old days.

Both of the men are now retired, and watch production today with increasing disdain. Here's how *they* did it, from beginning to end, using a fifty-gallon still and seven 50-gallon barrels:

1. Go to the woods and find a good place. Make a mudhole which contains plenty of good, thick red clay for use in the furnace. Also construct any water lines needed for the flake stand.

2. Choose the corn. Do not use a hybrid or yellow corn. Use a good, fresh, pure white corn like Holcomb Prolific which will produce about three quarts of whiskey per bushel. Inferior brands will only produce about two and a half quarts per bushel. Get nine and a half bushels.

3. Put at least a bushel and a half of corn (but not more than two) aside to sprout.

In *winter,* put this corn in a barrel or tub, add warm water, and leave it for twenty-four hours. Then drain it and move it to the sprouting tub. Cover it with pretty warm water, leave it for fifteen minutes, and drain the water off. Put the tub close to a stove, and turn the cold side to the stove at least once a day. Each day add warm water again, leave it for fifteen minutes, and drain it off again leaving the tub close to the stove. Also transfer the corn on the bottom of the tub to the top of the tub at least once a day to make sure it all gets the same amount of heat. You should have good malt in four or five days with shoots about two inches long, and good roots.

In *summer,* simply put the corn to be sprouted out in the sun in tow sacks. Sprinkle warm water over them once a day, and flip the sacks over. It is also possible to sprout the corn in sacks under either sawdust or mule manure—both hold heat well.

Be careful, however, not to let the corn get too hot or it will go slick. When it starts getting too hot, stir it up and give it air to cool it.

4. The day before the sprouted corn is ready, take the remaining eight bushels of corn to the miller to be ground up. Don't let him crush the corn or you'll have some heavy material left that will sink to the bottom of the still and burn. Make sure he grinds it all up fine.

Take this meal to the woods. The last three or four days should have been spent building the furnace and installing the still. It should be ready to work now. Build a fire under the still. Fill it nearly full with water, and stir in a half-bushel of corn meal. When it comes to a boil, let it bubble for thirty-five to forty minutes. Cook it well or it will puke too much when cooking later. When it has cooked sufficiently, bring one of the barrels over, put it under the slop arm of the still, push in the plug stick, and let the contents of the still fill the barrel. Add a gallon of yet uncooked meal and let the hot contents of the barrel cook it alone. Make sure it is stirred in well. Move the barrel aside, and repeat the whole process until all the meal is cooked, and all seven barrels are filled. Return home.

5. The next day, get the sprouted corn (malt) ground up at the mill and take it to the woods. Use a miller who knows you and will keep your activities secret. He will take no toll for grinding your malt. He'll take his toll out later when you are grinding straight corn again. You can also use a sausage mill.

In the woods, thin out the mash you made yesterday. This is done by standing the mash stick upright in each barrel. Add water and stir it in until the mash stick falls over against the side easily of its own weight. When all are thinned, add a gallon of malt to each barrel and stir it in. At the same time, add a double handful of raw rye to each barrel, sprinkling it around over the top. This helps to make the cap, helps the mixture begin working, and helps the final product hold a good bead. (If using sugar, add ten pounds to each barrel at the same time you add the malt.)

Cover the barrels. If they get rained into, your work is ruined. Return home.

6. The next day, the mixtures should be working. If one or two of them aren't, then mix them back and forth with those that are, using a dipper. You want them all to be working at the same time so that they'll all be ready to run at the same time. This liquid is now known as beer. Return home.